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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* YIHSIU CHEN, MARK JEFFREY FOLADARE,
SHELLEY B. GOLDMAN, THOMAS JOSEPH KILLIAN,
NORMAN LOREN SCHRYER, KEVIN STONE,
and ROY PHILIP WEBER

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Appeal 2008-005082
Application 09/911,061
Technology Center 2400

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Decided: March 2, 2010

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Before HOWARD B. BLANKENSHIP, JOHN A. JEFFERY, and
CAROLYN D. THOMAS, *Administrative Patent Judges.*

JEFFERY, *Administrative Patent Judge.*


DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's

rejection of claims 22-27. We have jurisdiction under 35 U.S.C. § 6(b). We

reverse.

STATEMENT OF THE CASE

Appellants' invention pertains to flexible automated access to virtual private networks (VPNs) based on selectable access criteria. Specifically, a network interface unit (NIU) is used in conjunction with a local area network (LAN) and a non-secure node of another network to establish secure communications via a VPN. *See generally* Spec. 1, 6, 7. Claim 22 is illustrative with the key disputed limitations emphasized:

> 22. A method *practiced at a network interface unit (NIU) directly connected to at least one local area network (LAN), said NIU also being connected to a non-secure node of a second network*, which second network is in packet communication with at least one access node of a secure virtual private network (VPN), the method comprising
>
> receiving data packets from at least one device on said at least one LAN,
>
> multiplexing said data packets into at least one packet data stream,
>
> modifying said at least one packet data stream in a security server in said NIU in accordance with a secure communications protocol by encrypting packets in said at least one packet data stream and encapsulating resulting encrypted packets, and
>
> providing network destination address information from a Domain Name System (DNS) server for at least selected ones of said at least one packet data stream.

The Examiner relies on the following as evidence of unpatentability:

| | | |
|---|---|---|
| Liu | US 6,079,020 | June 20, 2000 |
| Larson | US 2004/0107286 A1 | June 3, 2004 |

<div align="center">THE REJECTION</div>

The Examiner rejected claims 22-27 under 35 U.S.C. § 103(a) as unpatentable over Liu and Larson. Ans. 3-6.[1]

Regarding independent claim 22, the Examiner finds that Liu discloses a method practiced at a network interface unit (NIU) directly connected to a local area network (LAN) with all recited subject matter except for providing network destination address information from a Domain Name System (DNS) server as claimed. The Examiner, however, cites Larson as teaching this feature in concluding the claim would have been obvious. Ans. 3-5.

Appellants argue that Liu does not teach or suggest a NIU directly connected to at least one LAN as claimed. Rather, Appellants contend, Liu's virtual private network (VPN) gateways are connected to a respective LAN through an associated router. Br. 10-11. Appellants add that there is no reason to provide network destination address information from a DNS server in Liu as the Examiner proposes since packets arriving at VPN gateways in Liu already have sufficient destination information, and the proposed modification runs counter to Liu's operation. Br. 12-18.

The issues before us, then, are as follows:

<div align="center">ISSUES</div>

Under § 103, has the Examiner erred in rejecting claim 22 by finding that Liu and Larson would have collectively taught or suggested a method

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[1] Throughout this opinion, we refer to the Appeal Brief filed December 10, 2007 and the Examiner's Answer mailed January 10, 2008.

practiced at a NIU directly connected to at least one LAN, where the NIU is
also connected to a non-secure node of a second network?

## FINDINGS OF FACT

1.  Liu's system manages secure VPNs over public or other insecure
infrastructures.  A received command specifying an operation on a VPN is
translated into configuration parameters for VPN gateways affected by the
command.  These configuration parameters are then transmitted to the
affected gateways for configuration.  Liu, Abstract; col. 1, ll. 8-12.

2. VPN gateway 115 couples LAN 110 to public network 100 through
router 114.  Likewise, VPN gateway 125 couples LAN 120 to public
network 100 through router 124.  Liu, col. 5, ll. 60-65; Fig. 1.

3.  VPN management station 160 controls VPN gateways 115, 125,
135 through commands and configuration information transmitted to the
gateways via public network 100.  Liu, col. 6, ll. 25-28; Figs. 1, 4, 5.

4.  VPN management station 160 includes a network interface card
408 coupled to processor 400, memory 402, and storage unit 405 via bus
401.  Network interface card 408 also couples VPN management station 160
to public network 100.  Liu, col. 8, ll. 41-60; Fig. 4.

## PRINCIPLES OF LAW

Generally, a preamble limits the invention if it recites essential
structure or steps, or if it is "necessary to give life, meaning, and vitality" to
the claim. . . . Conversely, a preamble is not limiting "where a patentee
defines a structurally complete invention in the claim body and uses the
preamble only to state a purpose or intended use for the invention."

*Catalina Marketing Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808
(Fed. Cir. 2002) (citations omitted). *See also Rowe v. Dror*, 112 F.3d 473,
478 (Fed. Cir. 1997) (noting that when the claim preamble recites structural
limitations of the claimed invention, the USPTO must give effect to that
usage).

<div align="center">ANALYSIS</div>

This appeal hinges on two questions. First, must we accord patentable
weight to the NIU connections recited in the preamble of independent
method claim 22? And if so, does the Examiner's equating various elements
in Liu reasonably correspond to these limitations? We answer "yes" and
"no" respectively to these questions.

The Examiner apparently takes alternative positions in interpreting the
preamble of claim 22. On the one hand, the Examiner gives no patentable
weight to the preamble's calling for the method to be practiced at a NIU
since it allegedly recites the purpose of the process, and the body of the
claim is said to not depend on the preamble for completeness. Ans. 8-9.

On the other hand, the Examiner *does* give weight to the preamble,
and asserts that Liu's network interface card 408 corresponds to the recited
NIU and is directly connected to at least one LAN, namely LANs 110 and/or
120. Ans. 9.

Both of these positions are problematic. First, claim 22
unambiguously requires practicing the method "at a network interface unit
(NIU) . . . . directly connected to at least one local area network (LAN)," the
NIU also is "connected to a non-secure node of a second network . . . ." As
Appellants indicate (Br. 10), claim 22's preamble does not merely state a

purpose or intended use of the invention, but rather is a concrete structural relationship between the recited components—structure that cannot be ignored. *See Rowe*, 112 F.3d at 478 (noting that when the claim preamble recites structural limitations of the claimed invention, the USPTO must give effect to that usage).

Claim 22's preamble also provides essential linking functionality with other recited steps in the claim, namely the "receiving" and "modifying" steps that refer to the LAN and NIU, respectively. These steps therefore depend on the preamble for completeness. Since the preamble of claim 22 is "necessary to give life, meaning, and vitality" to the claim, it must be given patentable weight. *See Catalina Marketing*, 289 F.3d at 808.

But the Examiner's rejection falls short even when the Examiner gives the preamble patentable weight. Even assuming, without deciding, that Liu's network interface card 408 corresponds to the recited NIU with its security server capabilities, it is not *directly* connected to at least one LAN as claim 22 requires. The Examiner's assertion that Liu's network interface card 408 is directly connected to LAN 110 and/or LAN 120 (*Id.*) is simply untenable.

As shown in Figure 4, Liu's network interface card is in the VPN management station 160 (FF 4)—a controller remote from LANs 110, 120, and hardly directly connected to these LANs. *See* FF 2-4. Although the VPN management station is ultimately "connected" to these LANs via (1) public network 100; (2) VPN gateways 115, 125; and (3) routers 114, 125 as shown in Figure 1 (FF 1-3), the VPN management station is intended to configure the VPN gateways (FF 1) and, in any event, is not directly connected to the LANs.

Notably, the Examiner relies on part of this "connection" to likewise satisfy the preamble's requirement that the NIU also be connected to a non-secure node of a second network, namely public network 100. Ans. 9. While we agree that the NIU of the VPN management station is connected to a non-secure node of the public network 100 as shown in Figure 4 (FF 4), there is still no direct connection to the LANs 110 and 120 as the Examiner asserts. Although Liu's network interface card is directly connected to a bus 401 which interconnects a processor, memory, and a storage unit as shown in Figure 4 (*Id.*), the Examiner did not rely on this bus as corresponding to the recited LAN. Nor will we speculate that such a bus can constitute the recited LAN in the first instance on appeal.

We therefore find that Liu fails to practice the recited method at a NIU directly connected to at least one LAN, where the NIU is also connected to a non-secure node of a second network. Nor has the Examiner shown that Larson cures this deficiency. As such, even if these references were combinable, they would still not teach or suggest the claimed invention. Since our decision in this regard is dispositive, we need not reach Appellants' arguments regarding the impropriety of combining the references.

We are persuaded that the Examiner erred in rejecting independent claim 22, and dependent claims 23-27 for similar reasons.

CONCLUSION

The Examiner erred in rejecting claims 22-27 under § 103.

ORDER

The Examiner's decision rejecting claims 22-27 is reversed.

REVERSED

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